

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow. Claims 1-15 and 20-24 were pending in this application. Claims 1-15 and 20-24 have been rejected. With this Reply and Amendment, no claims have been cancelled, added, or amended. Therefore, Claims 1-15 and 20-24 will remain pending in this application upon entry of this Reply and Amendment.

35 U.S.C. § 112 ¶ 2

In Section 3 of the Office Action, the Examiner rejected Claims 14-15 under 35 U.S.C. § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

Claims 14-15 have been amended and are definite and in compliance with 35 U.S.C. § 112 ¶ 2. The Applicants request withdrawal of the rejection of Claims 14-15 under 35 U.S.C. § 112 ¶ 2.

Claim Rejections – 35 U.S.C. § 103

In Section 6 of the Office Action, the Examiner rejected Claims 1-15 and 20-24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,558,950 titled “Optimized Cell Pack for Large Sealed Nickel-Metal Hydride Batteries” to Ovshinsky et al. (“Ovshinsky”) in view of GB Patent No. GB2026761A titled “Accumulator Terminal Assemblies” to Schafer (“Schafer”) and U.S. Patent Application No. 2002/0070215 titled “Collapsible Container with Closed, Multi-Paneled Sidewalls” to Walsh et al. (“Walsh”).

The Examiner stated in part:

With respect to claim 1, Ovshinsky et al. disclose a metal hydride battery having a plastic housing comprising a plastic case and a plastic top. See Table 2. Ovshinsky et al. further recognize that plastic cases are extensively used in lead acid battery technology and has been easily adapted for other batteries such as NiMH

hydride electric vehicle batteries. See column 3, lines 27-33. The battery would obviously have a terminal for the electrodes. See Figure 1.

Further, with respect to independent claim 20, Ovshinsky et al. disclose a battery casing having a container (the lower and side portions) having an aperture in the upper portion where the lid is provided. See Figure 1.

The Examiner further stated:

Ovshinsky et al. do not disclose a plastic sealing element on the contact element. Schafer discloses a battery having a terminal post (1) provided on the shank with parallel, peripheral ribs (4), and these ribs engage in complementary grooves in portion (5) moulded around it. The ribs (4) provide both firm, positive engagement with the plastics portion (5) on the terminal post (1), and a very long surface leakage path for the electrolyte, which ensures both fluid-tightness and mechanical strength. See page 1, lines 51-58.

The Examiner concluded:

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a plastic sealing element because Schafer teaches it to ensure both fluid-tightness and mechanical strength. The plastic sealing element would be within the lid of the battery which lies flat against the housing wall at an interface.

The Examiner still further stated:

Ovshinsky et al. in view of Schafer do not disclose a battery wherein one of the support surface and the housing wall is at least partially transparent for a laser beam and the other is absorbent for the laser beam. However, it is well known to laser weld battery casings. Walsh et al. disclose a battery casing where portions of the container are laser welded. One of the layers is at least somewhat translucent while the other one is opaque, most often by adding carbon black to the thermoplastic material. The two layers are pressed together, whereby the surfaces to be joined are illuminated with a laser. The illumination is performed from the translucent side. The energy from the laser beam will be

transformed into thermal energy when it hits the opaque layer, whereby it melts and the parts are joined by welding. See [0058].

The Examiner further concluded:

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a translucent and an opaque layer in laser welding because Walsh et al. teaches it to allow the process to occur.

Ovshinsky is directed to an “optimized cell pack for large scaled nickel-metal hydride batteries” in which “electrodes 1 are connected via electrode tabs 2 to tab connectors 3 which are in thermal and electrical contact with electrode terminals 4, and the battery case 5” (see col. 7, line 67 – col. 8, line 2 and FIG. 1).

Schafer is directed to “accumulator terminal assemblies” in which a “terminal post 1 is provided on the shank with parallel, peripheral, ribs 4, and these ribs engage in complimentary grooves in portion 5 moulded around it” (see col. 1, lines 51-58 and FIG. 1). Schafer also discloses:

The ribs 4 provide both firm, positive engagement with the plastics portion 5 on the terminal post 1, and a very long surface-leakage path for the electrolyte, which ensures both fluid-tightness and mechanical strength.

Walsh is directed to a “collapsible container with closed multi-paneled sidewalls” for use in “transporting and storing heavy agricultural and other food items, as well as other industrial and consumer articles and goods for which clean or sanitary handling conditions are desired” (see paragraph [0033] and FIG. 1).

The Applicants submit that one of ordinary skill in the art would not likely combine the teachings of applications from such disparate technology areas as a “battery” (i.e., Ovshinsky and Schafer) and a “collapsible container” (i.e., Walsh). Walsh represents non-analogous art, and cannot be used to form a prima facie case of obviousness. The only mention of the word

“battery” in Walsh is in line four of paragraph [0037]: “a battery of 2-4, often 6-9 or more, hinges.” The word “battery” in Walsh is used to mean a “group” or “plurality” (of hinges).

The requirements of batteries are obviously very different to the requirements of collapsible containers. For example, batteries require a high degree of sealing in order to avoid leaking electrolyte, which often has a very low viscosity. For this reason, the welding joints of the battery are important and must be leak-tight. Even the smallest pores within the welding joint would provide a leakage path for the electrolyte, increasing the risk of an explosion. In addition, the welding joint has to withstand the mechanical loads which are applied to the poles of the battery during use of the battery. Therefore, one of ordinary skill in the art has no reason to consider the “collapsible container” of Walsh for improving a battery.

Claim 1 is in independent form and recites a “rechargeable battery” comprising, in combination with other elements, a “supporting surface” and a “housing wall” wherein “one of the supporting surface and the housing wall is at least partially transparent for the laser beam and the other of the supporting surface and the housing wall is absorbent for the laser beam.” Claims 2-15 depend from independent Claim 1.

Claim 20 is in independent form and recites a “rechargeable battery” comprising, in combination with other elements, a “supporting surface” and a “housing wall” wherein “one of the supporting surface and the housing wall is at least partially transparent for a laser beam used in a transmission laser welding operation and the other of the supporting surface and the housing wall is absorbent for the laser beam.” Claims 21-24 depend from independent Claim 20.

The “rechargeable battery” recited in independent Claims 1 and 20 would not have been obvious in view of Ovshinsky, alone or in any proper combination with Schafer under 35 U.S.C. § 103(a). Ovshinsky, alone or in any proper combination with Schafer does not disclose, teach, or suggest a “rechargeable battery” comprising, in combination with other elements, a “supporting surface” and a “housing wall” wherein “one of the supporting surface and the

housing wall is at least partially transparent...and the other of the supporting surface and the housing wall is absorbent for the laser beam” as recited in Claims 1 and 20.

Instead, Ovshinsky discloses a “comparison cell” having a plastic case and a plastic top. See Ovshinsky at Table 2. However, Ovshinsky further teaches a “stainless steel case” and a “stainless steel top” as its invention. Id. In this regard, Ovshinsky teaches away from the present application, specifically “one of the supporting surface and the housing wall is at least partially transparent” as recited in Claims 1 and 20. Neither the “stainless steel case” nor the “stainless steel top” would be “at least partially transparent.”

Furthermore, Schafer discloses a traditional method of welding plastic components known as “mirror welding.” See Schafer at page 1, lines 80-81. It has been found, however, that such a welding method used with lead acid batteries is not suitable for nickel metal hybrid batteries or lithium-ion batteries (as in the present invention) because of the difference in the materials involved. For this reason, Schafer could not contribute any suggestion or motivation for one of ordinary skill in the art to solve the technical problem underlying the present invention.

In particular, Schafer does not teach, disclose, or suggest “one of the supporting surface and the housing wall is at least partially transparent” (as recited in Claims 1 and 20), since this would not be necessary for mirror welding. As is known in the art, mirror welding is done by using a hot flat piece of metal (called the mirror) which is placed between the parts to be welded. The mirror heats up the surfaces of the parts, which can then be coupled together. Without having a reason or motivation, one of skill in the art would not provide different types of plastic materials (i.e., a transparent material and a light absorbing material) in the battery arrangement of Schafer, since it’s always easier to use the same type of plastic material for welding purposes.

To transform the “optimized cell pack for large sealed nickel-metal hydride batteries” of Ovshinsky and the “accumulator terminal assemblies” of Schafer into a “rechargeable battery” (as recited in Claims 1 and 20) would require still further modification, and such modification is

taught only by the Applicants' own disclosure. The suggestion to make the combination of Ovshinsky and Schafer has been taken from the Applicants' own specification (using hindsight), which is improper.

The "rechargeable battery" recited in independent Claims 1 and 20, considered as a whole, would not have been obvious in view of Ovshinsky and/or Schafer. The rejection of Claims 1 and 20 over Ovshinsky and/or Schafer under 35 U.S.C. § 103(a) is improper. Therefore, Claims 1 and 20 are patentable over Ovshinsky in view of Schafer.

Dependent Claims 2-15, which depend from independent Claim 1 and Claims 21-24 which depend from independent Claim 20, are also patentable. See 35 U.S.C. § 112 ¶ 4.

The Applicants respectfully request withdrawal of the rejection of Claims 1-15 and 20-24 under 35 U.S.C. § 103(a).

* * *

It is submitted that each outstanding objection and rejection to the Application has been overcome, and that the Application is in a condition for allowance. Applicants request consideration and allowance of all pending claims.

It should also be noted that although the Applicants have only addressed certain claims or claimed features herein, other claims, features, or combinations of features may also be patentable for additional reasons. Further, the failure to address any statement by the Examiner should not be interpreted as acquiescence or agreement with such statement. Applicants expressly reserve the right to rebut any statement presented by the Examiner and to set forth additional and/or alternative reasons for patentability during prosecution of the present Application or in any other future proceeding.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. § 1.136 and authorize payment of any such extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

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